

VERSION WITH MARKINGS TO SHOW CHANGES MADE

ABSTRACT

[A composite] Composite absorbent structure and method [are disclosed including providing] provide a [first] wicking layer having preferred liquid transport properties in [a] preferred contact with a [second absorbent] retention layer. [The composite absorbent structure of the present invention provides preferred liquid transport and liquid retention properties. The composite absorbent structure has a first wicking layer in a preferred contact with the second retention layer by a novel intimate contact means effective to achieve a] A novel Contact Intimacy Ratio [providing the] provides preferred liquid transport [and liquid] retention [functions when the first wicking layer and the second absorbent retention layer are combined together in accordance with the present invention]. In one aspect, a bonding agent [is used in the present invention in combination] combines with [the first] wicking [layer of] wettable lamallae or foams and [a second retention layer of a] hydrogel-forming polymeric [material, preferably] superabsorbent, to form [a composite absorbent structure having] the preferred Contact Intimacy Ratio and [providing the] preferred liquid transport [function] and [the preferred liquid] retention [function]. In one aspect, the bonding agent [used in the present invention in combination with the first wicking layer and the second retention layer] includes polyhydroxyalkanoate[. In one aspect, the bonding agent includes] or poly(lactic)acid. In one aspect, [the absorbent

structure has] a wet geometric mean breaking length [of] is at least 5 meters, [and] a dry geometric mean breaking length [of] is at least 50 meters, [and the first wicking layer exhibits] a vertical liquid flux rate at a height of about 5 centimeters [of] is at least about 0.4 grams of liquid per minute, [such that the first wicking layer exhibits] a wicking time [of] is less than about 3.5 minutes, and [said first wicking layer has] a basis weight is greater than 100 [grams per square meter] and less than 300 grams per square meter.